Internet Video Server

IVS-100

User's Manual

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Revision

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Chapter 1

Introduction

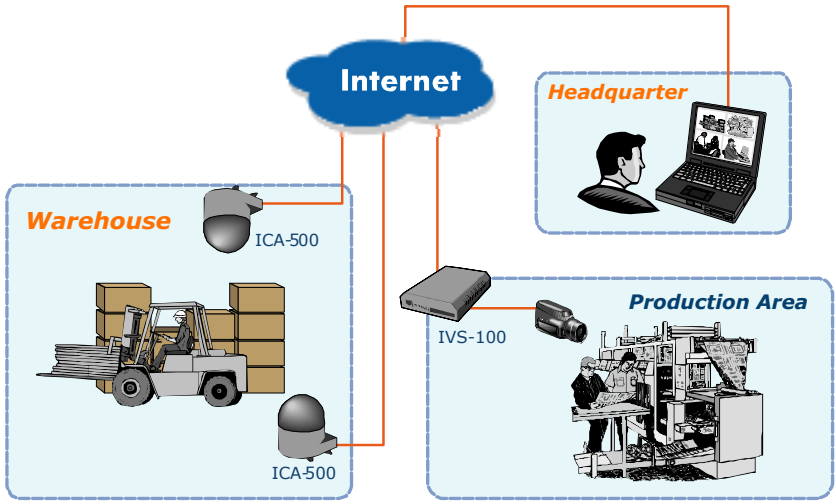
This Chapter provides details of the IVS-100's features, components and capabilities.

Overview

PLANET IVS-100 digitizes the analog video and transmits them at full frame rate over IP network, enabling remote viewing of video in real time on a local area network or the Internet. The video server also provides built-in video motion detection and powerful event management features based on triggered or scheduled events. In addition, IVS-100 offers a complete set of security features such as IP address filtering and multi-level password protection.

Receive video & field monitoring via standard web browser from any networked computer at anytime without boundary in the world. PLANET Internet Video server IVS-100 can have all these digital benefits without repeated investments in an analog system.

PLANET IVS-100 video server can be integrated easily with existing analog Closed Circuit Television (CCTV) system. PLANET IVS distributes digital images directly over an IP-based computer network, essentially turning analog cameras into digital network cameras. System administrators are able to view live images from a standard Web browser anywhere around the world.



IVS-100 applications

Features

- ***Ease of use***

  Plug-N-Watch capability to simplify system integration in an existing network environment
- ***Meeting SOHO, business, or public facilities surveillance needs***

IVS-100 can be deployed in many different situations, such as library, train station or factory production line to provide efficient, human-resource reducing, and offers flexibility, affordability, and reliability for the proper surveillance of manufacturing facilities.

- ***Multi-Platform support***

  Supporting TCP/IP networking, SMTP e-mail, and HTTP public network standards, IVS-100 can be applied and utilized to a mixed IP network environment.

- ***Motion Detection***

  This feature will send you alert message when motion is detected. The IVS-100 will compare consecutive frames to detect changes caused by the movement of large objects.

- ***Audio Support***

  With built-in RCA audio interface, the voice around can be recorded with live image.

Internet Features

- ***User-definable administration port number***.

  This allows Internet Gateways to use “port mapping” so the IVS-100 and a Web Server can share the same Internet IP address.

- ***DDNS Support***

  In order to view video over Internet, user must know the Internet IP address of the gateway used by IVS-100. An easy-to-remember DDNS (Dynamic DNS) name will help you memorize your site more easily.

- ***NTP (Network-Time-Protocol) Support***

  NTP allows the IVS-100 to calibrate its internal clock from an Internet Time-Server. This ensures that the time stamp on the recorded video from the IVS-100 will be correct.

Security Features

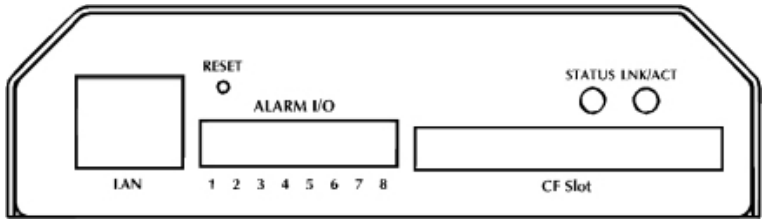
- ***User Authentication***

  If desired, IVS-100 access can be restricted to known users. Users will have to enter their username and password before being able to view the video stream. Up to 10 users can be entered.

- ***IP filter***

  IVS-100 access not only can be restricted by username/password, but also can be limited by the IP range to bring users more security.

Physical Details



IVS-100 Front Panel

Front Panel

LAN port

Use a standard LAN cable to connect your IVS-100 to a 10/100BaseT hub or switch.

Alarm I/O Connector

IVS-100 provides a terminal block with 8 pins of connectors located on the center of the back panel. There are 3 pins for two alarm inputs and 5 pins are for alarm output. The I/O connectors are physical interface to sense and/or activate alarm signals to a variety of external sensors or alarms.

Reset Button

The **RESET** button is used for

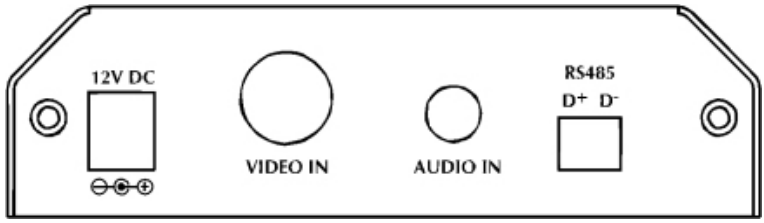
- Restore Default IP Address, Administrator ID, and Administrator password.
- IP address: 192.168.0.20
  - Administrator ID: admin
  - Administrator Password: null (no password)

Reset steps:

- Power off the Video server.
- Insert the paper clip or other tool and press and hold the button down continuously.
- Power on the Video server again.
- Wait at least 8 seconds and release the tool. Then the Video server has been restored to default settings.

Note:

Restoring the factory default configurations will lose the existing machine settings. User needs to access machine default IP address or use the IP Finder program to search the Video server for configuration and operations..



IVS-100 Rear Panel

Rear Panel

Video-in	Use a standard LAN cable to connect your IVS-100 to a 10/100BaseT hub or switch.
Audio-in	IVS-100 provides a terminal block with 8 pins of connectors located on the center of the back panel. There are 3 pins for two alarm inputs and 5 pins are for alarm output. The I/O connectors are physical interface to sense and/or activate alarm signals to a variety of external sensors or alarms.
RS485	The RS485 interface is used for external camera pan/tilt control After d+ and d- are correctly connected to camera, users could control IVS-100 by clicking the direction on the web configuration page in IVS-100

Package Contents

The following items should be included: If any of these items are damaged or missing, please contact your dealer immediately.

- Planet IVS-100 Video Server x 1
- Power adapter x 1
- Terminator for Alarm I/O x 1
- Terminator for RS485 x 1
- User's manual CD x 1

Chapter 2

Basic Setup

This Chapter provides details of installing and configuring the IVS-100.

System Requirements

- To use the LAN interface, a standard 10/100BaseT hub or switch and network cable is required.
- System Requirement for Viewer & Recorder:

System Hardware	1-4 cameras surveillance application • CPU: Pentium III, 800 MHz or above • Memory Size: 128 MB (256 MB recommended) • VGA card resolution: 1024 x 768 or above 4 or more cameras surveillance application • CPU: Pentium 4, 1.7G MHz or above • Memory Size: 512 MB or above • VGA card resolution: 1024 x 768 or above

ⓘ Hint

Note: The listed information is minimum system requirements only. Actual requirement will vary depending on the nature of your environment.

Installation

1. Attach video signal source to the IVS-100

To use Video Server, it is required to supply video signal to this device. Typical, user may utilize standard camera, doom camera, bullet camera, PT camera, Speed doom camera, or others as the video source. Connect the BNC terminal of camera securely to IVS-100's video input and make sure to power on the external camera first.

IVS-100 Installation

2. Attach audio signal source to the IVS-100 (optional)

If user needs not only video stream but also audio stream, then the audio source is attached to Video Server at the time. User may utilize line output of standard camera or audio amplifier, or others as the audio source. Connect the RCA terminal of audio device's line output to IVS-100's RCA input and make sure to power on your camera or audio device first.

3. Connect Ethernet cable to the IVS-100

Connect an Ethernet cable to the LAN socket located on IVS-100's front panel and attach it to the network.

4. Supply power to the IVS-100

Connect the supplied power adapter to the IVS-100 and power up. Use only the power adapter provided. Using a different one may cause hardware damage.

5. Check the LEDs

When powering on machine, the status LED will turn green. It means the system is booting up successfully. Furthermore, if you have a proper network connection, and access to the IVS-100, the 10/100M LAN LED will flash orange

6. Connect the RS485 interface

When users would like to apply a camera with Pan / Tilt function, they usually need to connect their communication port (for camera control) through RS485. After RS-485 securely connected to D+ and D-, the remote users could control IVS-100 through Internet.

Setup

Initial setup can be performed either from the web browser or using the supplied Windows-based camera utilities. This program can locate the IVS-100 even if its IP address is invalid for your network. You can then configure the IVS-100 with appropriate TCP/IP settings for your LAN.

Subsequent administration can be performed with your Web browser, as explained in *Chapter 3 - Web-based Administration*.

Setup Procedure

Before setup operations

The IVS-100 provides GUI (Web based, Graphical User Interface) for machine management and maintenance.

To start IVS-100 web configuration, the requirement of the web browser should be:

Microsoft Internet Explorer 6.0 or higher with Java support

ⓘ Note

Current firmware supports Microsoft Internet Explorer, the Netscape Navigator support is planned in the future firmware release

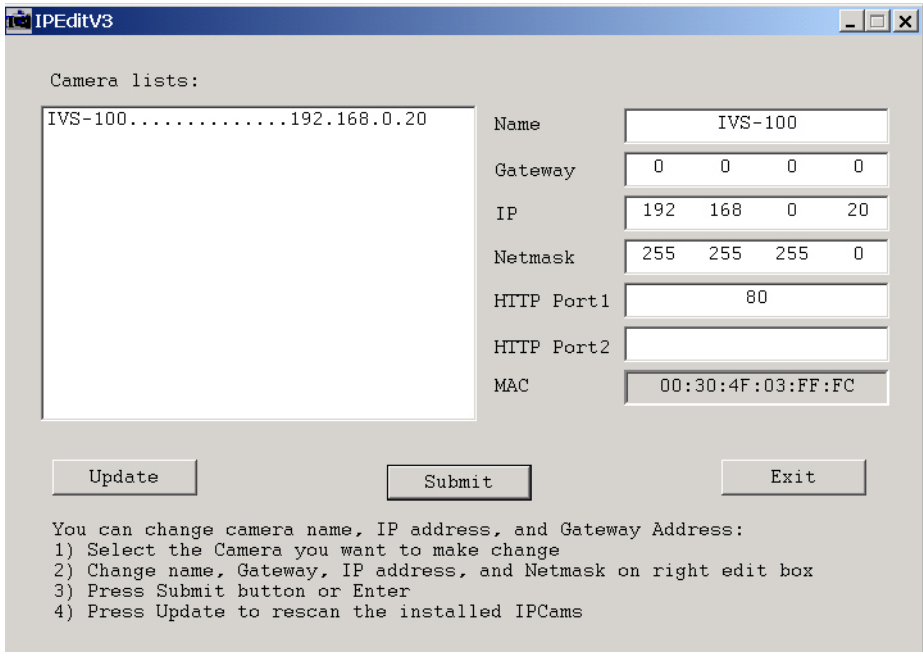
Default LAN interface IP address of IVS-100 is ***192.168.0.20***. You may now open your web browser, and insert http://192.168.0.20 in the address bar of your web browser to logon IVS-100 web configuration page.

IVS-100 will prompt for User Name and Password, please enter: ***admin*** as username to continue machine Web Management.

Or you may execute **IPEditV3** to discover/edit IP address of IVS-100.

Procedures of IPEdit utility

- Please find the **IPEditV3.exe** in the ***Utility*** folder on user's manual CD
- Double-click the **IPEditV3.exe** and the following screen should be prompt on your computer.
- Choose the destination camera for IP address and device name modifications



- After modifications, you may now connect IVS-100 via web browser.

Chapter 3

Advanced Viewing Setup

This Chapter provides information about the optional settings and features for viewing video via the IVS-100. This Chapter is for Administrators only.

Introduction

After finishing the network setup, the IVS-100 can immediately be used by all users on your LAN.

This chapter describes some additional settings and options for viewing live Video:

- Adjusting the video image
- Controlling user access to the live video stream
- Making video available from the Internet

Adjusting the Video Image

If necessary, the IVS-100 Administrator can adjust the Video image. Settings are provided for:

- **Image size** - Select the desired size. The larger sizes require greater bandwidth.
- **Image quality** - This determines the degree of compression applied to the Video stream. Higher quality requires greater bandwidth.
- **Saturation, Sharpness, Contrast, Hue adjustment** -

To Adjust the Video Image:

1. Connect to the Web-based interface of the IVS-100.
2. On the *Administration* menu, select *Image*. You will see a screen like the example below.

Camera setting

3. Make the required adjustments, as explained below, and save your changes.

Video Settings	
Resolution	Select the desired video resolution. The default resolution is set to 320*240. Available resolution: • 176x144 • 320x240 • 352x288 • 640x480
Image Quality	Select the desired image quality. The default Image Quality is set to Standard. Available selection: • **Clarity**: Video is better but frame rate may be slower • **Fluency**: Video is not as good as Clarity but frame rate may be higher • **Standard**: System default value. **Note**: Higher image quality requires more bandwidth.
Saturation, Sharpness, Contrast, Hue	Image quality adjustment, the parameter ranges from 0 to 255
Options	
Camera tour	In IVS-100 Tour page, choose the one tour name from A to E. Fill the dwelling time and tour sequence by preset points, and then save these setting. You can repeat above procedure to set more camera tours.
Reset to default	If this option is enabled, all the settings in this page will be reset to factory default values.

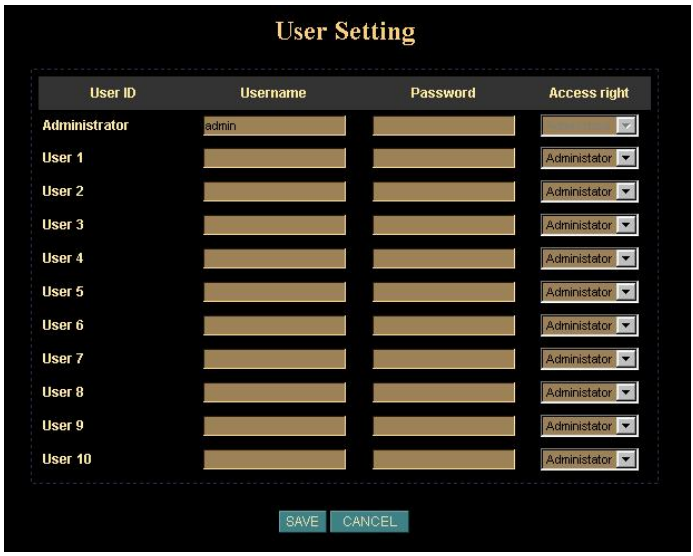
Controlling User Access to the Video Stream

By default, only system administrators can connect to the IVS-100 and view live Video.

If desired, you may apply the access privileges to known users, by requiring each user to login to the IVS-100 with their individual username and password.

To Enable this feature:

1. Connect to the Web-based interface of the IVS-100. (Please check related chapters for details.)
2. In machine *Administration* menu, select *User.*
3. You may add up to 10 users in machine database, choose the user number, and enter the name, password and access right for each user.



User Setting Screen

Operation

- When each user connects, they will be prompted for their username and password. They must enter the name and password defined on the User screen above.
- IVS-100 system administrator can have full access/system modification privileges; the user only has viewing privilege.

Making Video available from the Internet

If your LAN is connected to the Internet, typically by a Broadband Gateway/Router and Broadband modem, you can make the IVS-100 available via the Internet.

IVS-100 Setup

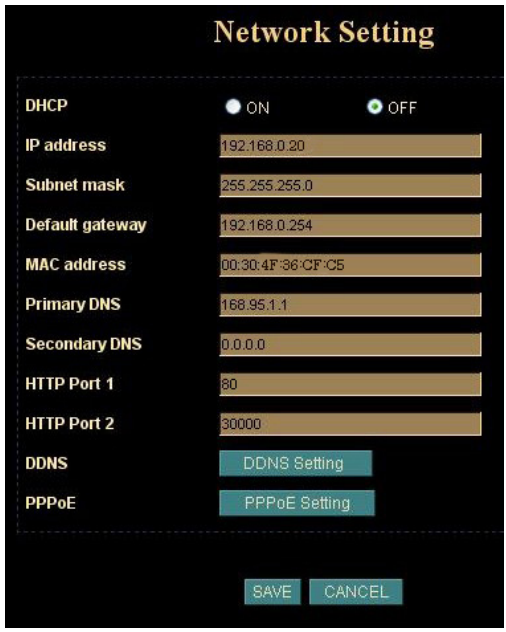
The IVS-100 configuration does NOT have be changed, unless:

- You wish to change the port number from the default value (1024).
- You wish to use the DDNS (Dynamic DNS) feature of the IVS-100.

Second HTTP Port Configuration

Normally, HTTP (Web) connections use port 80. Since the IVS-100 uses HTTP, but port 80 is likely to be used by a Web Server, you can use a different port for the IVS-100. This port is called the "**HTTP Port2**". (The first port is port 80.)

The HTTP port2 is disabled in default settings. If you prefer to use a different port number than port 80, you can specify the port number on the IVS-100's ***Network*** screen, as shown below.



Network Screen

The *Network* screen is part of the Web-based Administration interface. See ***Web-based Management*** for further details on using this interface.

ⓘ Hint

Viewers need to know this port number in order to connect and view live Video, so the current communication port number has to be informed to the remote users to connect to.

DDNS (Dynamic DNS)

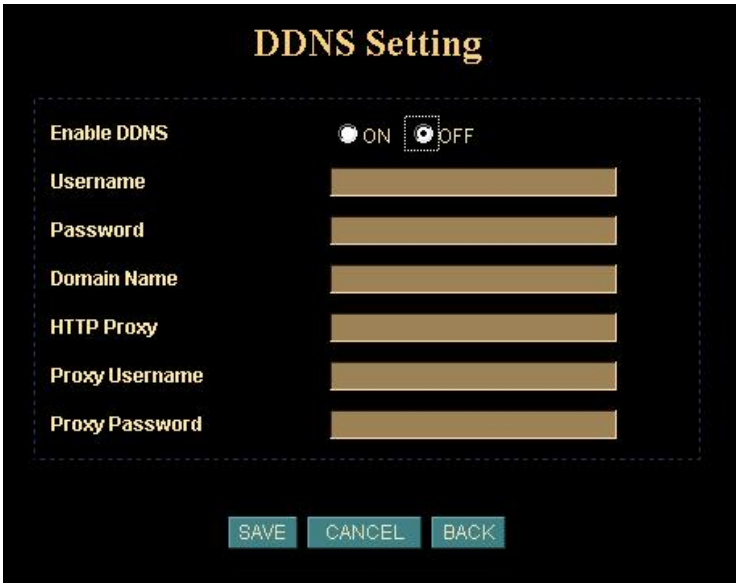
Many Internet connections use a "Dynamic IP address", where the Internet IP address is allocated whenever the Internet connection is established.

This means that other Internet users don't know the IP address, so can't establish a connection.

DDNS is designed to solve this problem, by allowing users to connect to your LAN using a domain name, rather than an IP address.

To use DDNS:

1. Register for the DDNS service with a supported DDNS service provider. You can then apply for, and be allocated, a Domain Name.
2. Enter and save the correct DDNS settings on the ***DDNS Setting*** screen in the ***Network*** setting menu.
3. Operation is then automatic:
   - The IVS-100 will then automatically contact the DDNS server whenever it detects that the Internet IP address has changed, and inform the DDNS server of the new IP address.
   - Internet users can then connect to your LAN using the Domain Name allocated by the DDNS service provider.
   - Limitation: if the IVS-100 is installed with private IP address behind the NAT router, please find and enable the DDNS feature on the router. This can prevent the remote users not able to connect to IVS-100.
   - Current supported DDNS service provider: www.dyndns.org , www.no-ip.comT



DDNS Setting Screen

Router/Gateway Setup for remote viewing

Your Router or Gateway must be configured to pass incoming TCP (HTTP) connections (from remote viewers) to the IVS-100. The Router/Gateway uses the *Port Number* to determine which incoming connections are intended for the IVS-100.

This feature is normally called *Port Forwarding* or *Virtual Servers* in the router. The Port Forwarding/Virtual Server entry tells the Router/Gateway that incoming TCP connections should be passed to the IVS-100. If necessary, check the user manual for your Router/Gateway for further details.

ⓘ Hint

The "Port" for the *Port Forwarding / Virtual Server* entry above is the "Second Port" number specified on the *Network* screen of the IVS-100.

Viewing via the Internet

Clients (viewers) will need a broadband connection; dial-up connections are NOT recommended.

Using your Web Browser

If using your Web browser, you need to know the address of IVS-100 (either the Internet IP address or the Domain name) and the correct communication port number.

Enter the address of the IVS-100, and its port number, in the *Address* (or *Location*) field of your Browser.

Example - IP address:

`HTTP://203.70.249.52:1024`

Where the Router/Gateway's Internet IP address is `203.70.212.52` and the "**HTTP Port2**" number on the IVS-100 is `1024`.

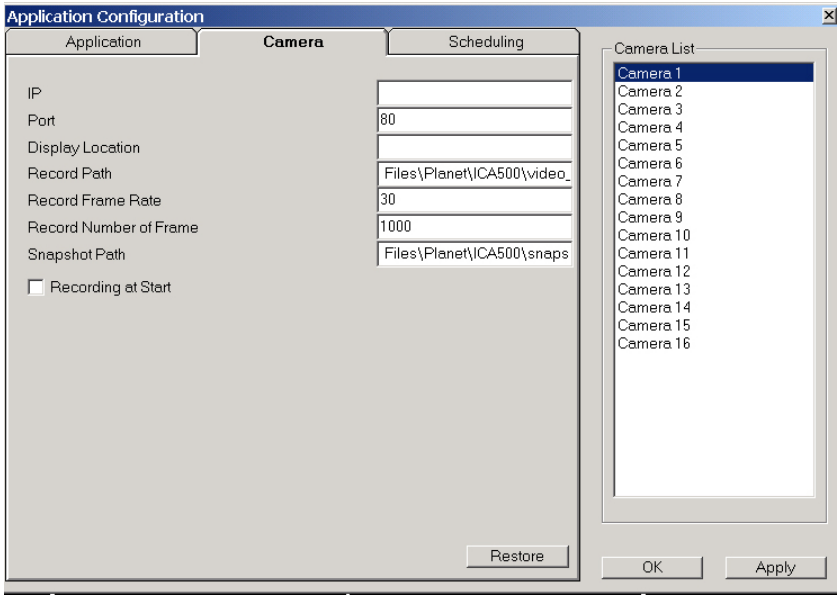
Example - Domain Name:

`HTTP://ivs100.dyndns.org:1024`

Where the Router/Gateway's Domain name is ica100.dyndns.org and the " **HTTP Port2**" number on the IVS-100 is `1024`.

Using the Windows Viewing/Recording Utility

If using the CamView Utility, the details of the IVS-100 must be entered on the *Internet* tab of the *Add Camera* screen.



CamView - Add Camera/Video server Screen

You can then select IVS-100 in IVS-100*s* list on the main screen, and click ***OK*** to establish a connection and view live video.

Please check *respective chapter* for further details of viewing Video using either the Windows Viewing/Recording utility or Web Browser.

Chapter 4

Web-based Management

This Chapter provides Setup details of the IVS-100's Web-based Interface. This Chapter is for Administrators only.

Introduction

The IVS-100 can be configured using your Web Browser. The IVS-100 must have an IP address, which is compatible with your PC.

Connecting to IVS-100

- If you have run the CamView utility, the screen provided a button . Clicking this button will immediately connect to the IVS-100.
- If using only your Web Browser, use the following procedure to establish a connection from your PC to the IVS-100:
- Once connected, you can add the IVS-100 to your Browser's *Favorites* or *Bookmarks*.

Connecting using your Web Browser

1. Start your web browser.
2. In the *Address* box, enter "HTTP://" and the IP Address of the IVS-100, as in this example, which uses the IVS-100's default IP Address:

   `HTTP://192.168.0.20`
3. Default ***username*/*password*** for machine login: ***admin***/ <no password>
4. If the *Administrator ID* and *Password* have been assigned, enter the name and password you assigned.

Welcome Screen

If the CCTV camera and the video server are properly connected, the video server *Home* screen will be displayed.

Video server Home Screen

The Home screen can be divided into three areas:

- **Viewing Area -** Images from the Video server
- **Control Panel Area -** Video server Manipulation and image quality control
- **Advanced Configuration area -** only available for administrator. Video server administrator can have full configuration in this menu.

These options are explained in the following sections.

Viewing Area

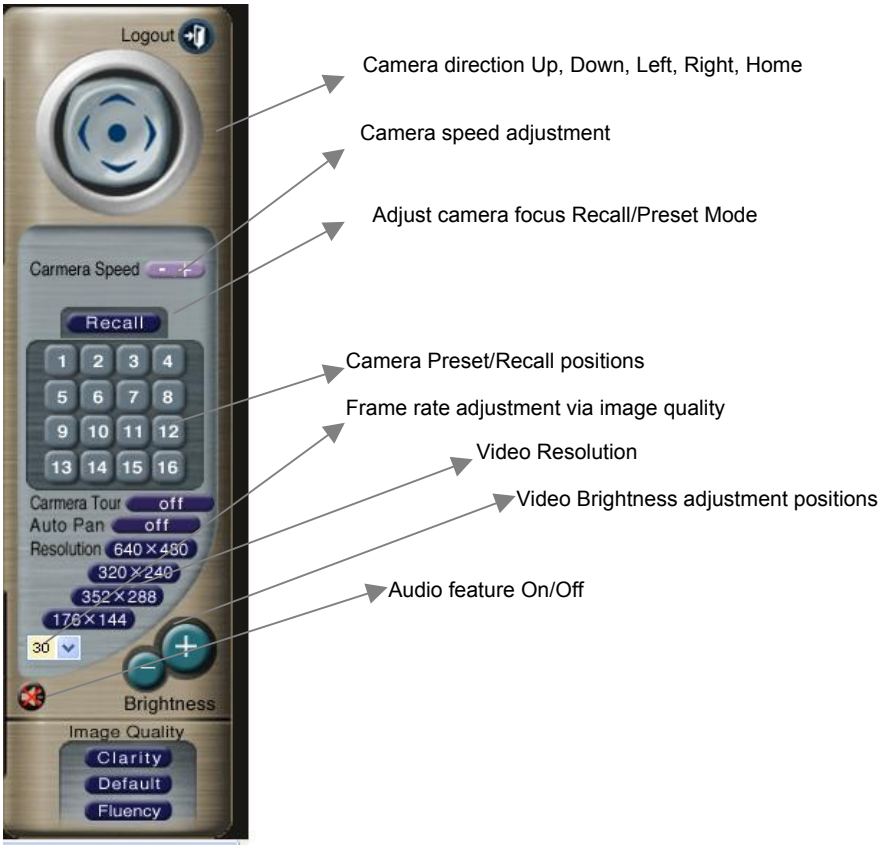
This screen is displayed when you log in machine

Viewing Area Screen

- The IVS-100 web page requires ActiveX control to display the video content. The ActiveX control must be downloaded from IVS-100 and installed on your PC.
- The security settings on the Internet Explorer must allow the ActiveX plug in to be functional.
- To use the IVS-100, please execute your Internet Explorer and browse to ”Tools” ➔ ”Internet Options…” ➔ ”Security” ➔”Custom Level…” and change the settings as follows:
  - *Download the signed ActiveX controls*
  - *Download the unsigned ActiveX controls*
  - Initialize and script the ActiveX controls not masked as safe to ***Prompt***
- After the ActiveX installation completed, video content will start playing automatically. Due to various network conditions, the video display may be a delay of a few seconds while the video stream is buffered.

Control Panel Screen

When you connect, IVS-100 ***control panel*** screen will be displayed.



Video server Control Panel Screen

The descriptions for the control panel as shown below:

Button	Definition
Camera Direction	Control external camera up/down/left/right and home position
Camera Speed	Increase/decrease external camera Pan/Tilt speed
Recall/Preset mode	**Preset**: set up camera fixed locations before operation **Recall**: Set camera position to preset location
Video Resolution	Adjust Video resolution The IVS-100 provides 4 resolutions: 640x480, 352x288, 320x240, 176x144 For NTSC camera: 320x240 is suitable For PAL camera: 352x288 and 176x144 are suitable However, all resolution are available for NTSC and PAL camera
Preset or Recall positions	Preset or Recall camera 1~16 location(s) Ex. If you press 5, then IVS-100 will move the external camera to preset location 5.
Video Brightness Adjustment	Adjust Camera video brightness
Image quality	Adjust image quality. Clarity: Video is better but frame rate may be slower Fluency: Video is not as good as Clarity but frame rate

	may be higher Standard: System default value
Frame rate adjustment directly	Adjust video frame rate via giving a number directly. 1, 5, 10, 15, 20, 25, 30
Audio On/Off	Turn on/off audio output function. **Note**: The Microphone is located on the rear panel. You need to position the MIC hole face to the audio source to have better audio quality.

Advanced Configuration Area

The ***Advanced Configuration*** menu offers more features and camera control privileges to meet various application demands.

Advanced Configuration Screen

The IVS-100 Advanced Configuration page divided into three sub-menus:

- **Camera Advanced *Setting***
- **Camera Trigger *Setting***
- **Screen capture *Setting***

Respective menu descriptions are illustrated in the following sections.

IVS-100 Advanced setting Menu

Clicking on ***Setting*** on the menu provides privileges to all the settings for the IVS-100.

The A**dvanced *Setting*** menu is divided into 2 categories: ***Basic*** and ***Application settings***:

The Basic menu provides essential configurations of the IVS-100, and the Application menu is provided for various applications.

Basic Setting

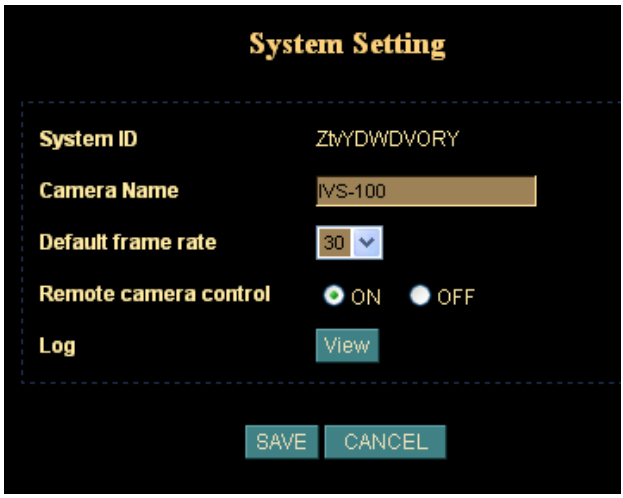
Parameters in the Basic configuration menu provide machine adjustment; the available configurations are listed below:

Icon	Menu Link	Definition
	System	Define Frame Rate, Turn on/off “Remote camera control”, and view system log file.
	Camera	Adjust camera parameters and set camera tour
	Network	Configure Network setting such as DHCP On/Off, DDNS and PPPoE

	User	Setup user name, password and login privilege
	IP Filter	Setup legal IP address of user login (This function should be used with function “User” respectively)

System Screen

After entering machine Home screen, click on the ***System*** menu, you will see a screen like the example below.



System Screen

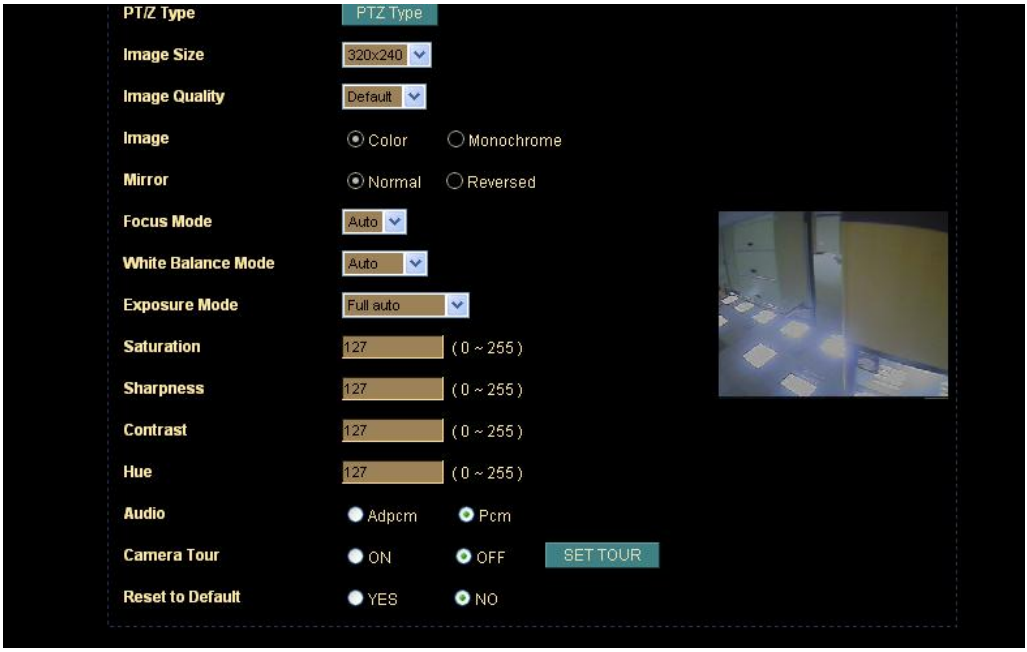
Data - System Screen

System Settings	
Serial Number	Product serial number
Camera Name	This displays the name for the IVS-100; camera name is useful while multiple unit installation.
Default frame rate	The default frame rate in IVS-100 is 30fps, the video frame rate can be adjusted in this menu or on the Control panel menu
Remote camera control:	Enable or disable remote control feature in IVS-100
Log	Administrator can check the log information in machine, including the Main Info, Appended Info, Operator IP, Operator MAC, and Time. Select the “**View**” button to check the log file.

Camera Screen

This screen is displayed when IVS-100 menu option is clicked.

Note: please adjust carefully to have proper machine configurations.



Camera Screen

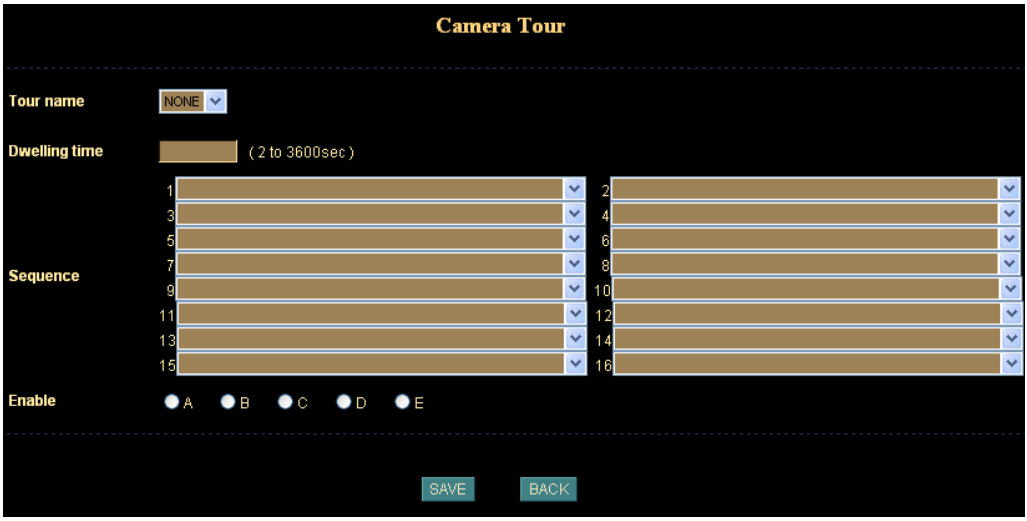
Data - Camera Screen

Camera Settings	
Image Size	Display resolution selection, supported resolution in IVS-100: • 176x144 • 352x288 • 320x240 • 640x480 **Please check the available network upload bandwidth and carefully select the proper video resolution.**
Image Quality	Video display quality selection in IVS-100: • **Clarity**: Video is better but frame rate may be slower • **Fluency**: Video is not as good as Clarity but higher frame rate • **Standard**: System default value **Note**: The value on the list box displays the current setting all the modifications will not take effects until it is saved in this menu..

Image, Rotate, Mirror, Focus Mode, White Balance	These functions are reserved for future product developing. They are not functional in IVS-100.
Saturation, Sharpness, Contrast, Hue	Key in respective value for image adjustment. It is not required to adjust this value when the image is vivid.
Camera Tour	To use IVS-100 tour function, user must preset some camera positions first. Select the "**SET Tour**" button to enter IVS-100 Tour setting page.
Reset to Default	Restore the values of these pages to factory default value.

Camera Tour

In the camera tour page, choose the one tour name. Fill the dwelling time and tour sequence by preset points, can repeat above procedure to set more camera tours.



Camera Tour Screen

Data – Camera Tour Screen

Camera Tour Settings	
Tour Name	Choose the one tour name from A to E
Dwelling Time	The time period between every tour point.
Sequence	16 points can be assigned.
Enable	Enable camera tour group should be activated

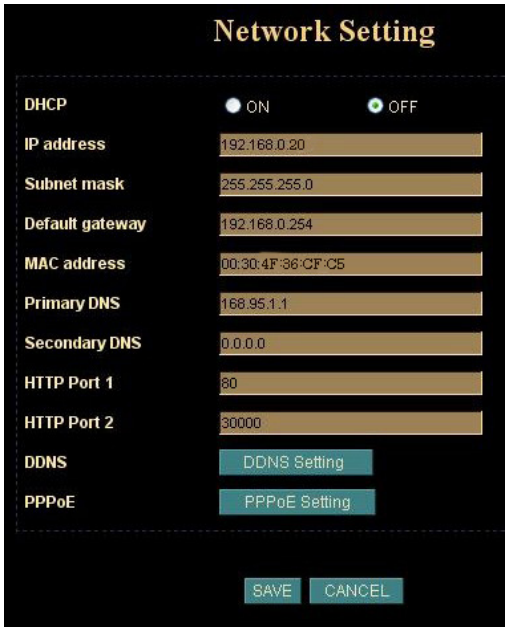
ⓘ Hint

To use camera tour function, the camera should be connected the RS485 connector, and the external camera should be supported by Video server. Users must preset some camera positions first. The maximum number of preset points is 16.

In Camera Tour page, choose the one tour name from A to E. Fill the dwelling time and tour sequence by preset points, and then save these setting. You can repeat above procedure to set more camera tours.

Network Screen

This screen is displayed configure Network setting such as IP address, DHCP, DDNS and PPPoE.



Network screen

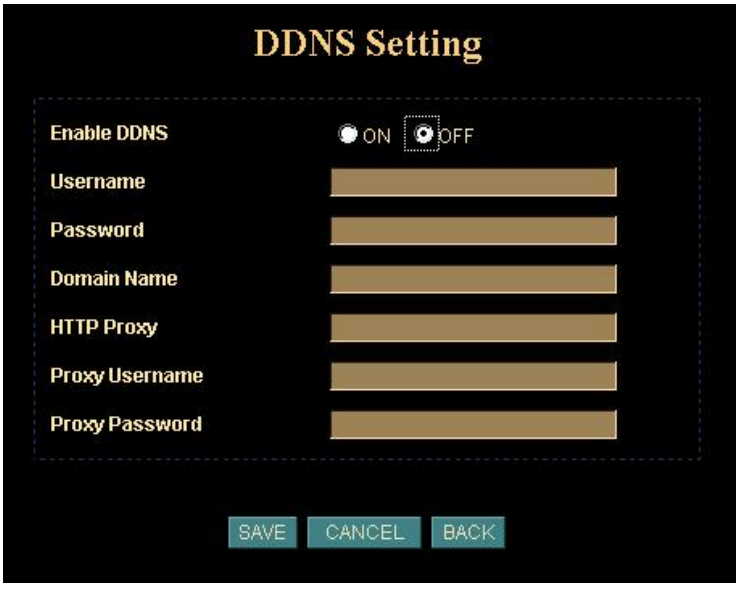
Data - Network Screen

Network Settings	
DHCP	Enable or disable DHCP client in IVS-100
IP address, Subnet mask, Default gateway, Primary DNS, Secondary DNS	This parameter allows users to setup the IP address assigned by ISP. Your ISP should provide all the information requied for Internet access. **Note:** User need to reboot the Video server to make this setting to take effect.
HTTP Port 1, HTTP Port 2	Users could assign the port number of http protocol, and the WAN users should follow the port number to login.

DDNS Setting

The DDNS is designed to eliminating the inconvenience brought by dynamic IP addressing, by allowing users to connect to your LAN using a domain name, rather than an IP address.

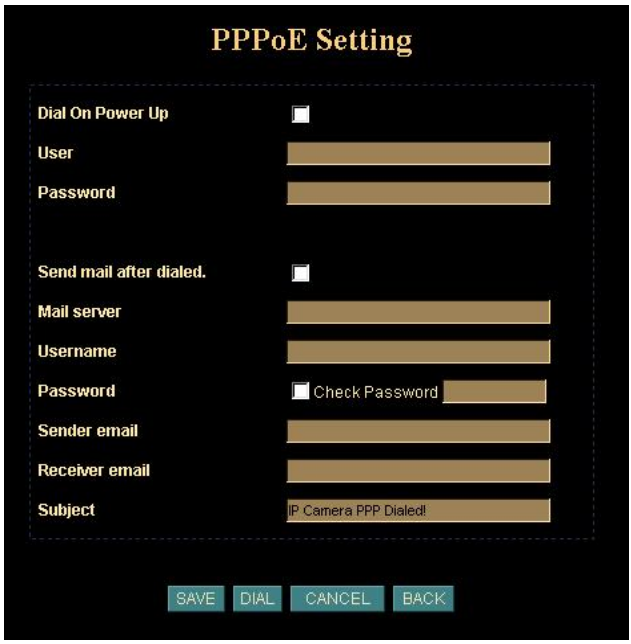
Network Settings	
Enable DDNS	Enable or disable DDNS function.
Username, Password	Enter the Username/Password for your DDNS account.
Domain Name	Enter the host name, which DDNS service provider assigned.
HTTP Proxy, Proxy Username, Proxy Password	Enter the parameter, which DDNS service provider assigned.



DDNS screen

PPPoE Setting

If the ISP demands PPPoE connection for Internet access, please select PPPoE as connection type, and insert the username/password by your ISP to connect you to the Internet.



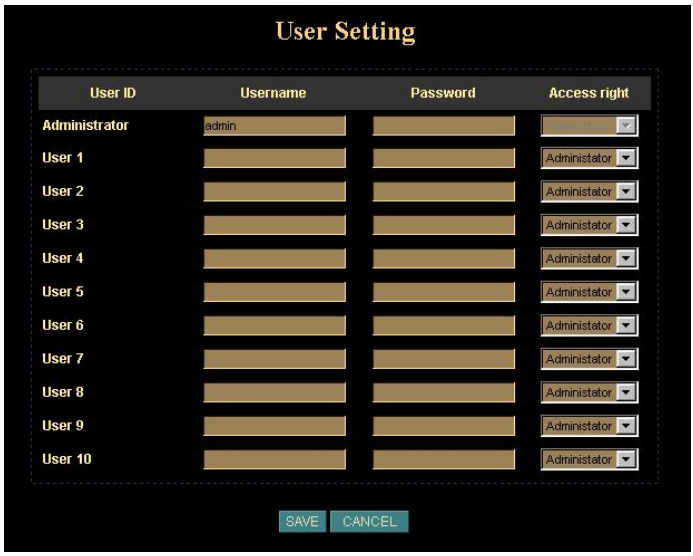
PPPoE screen

ⓘ Hint

Please consult your ISP personnel to obtain proper PPPoE/IP address related information, and input carefully. If Internet connection cannot be established, please check the physical connection or contact the ISP service staff for support information.

User Screen

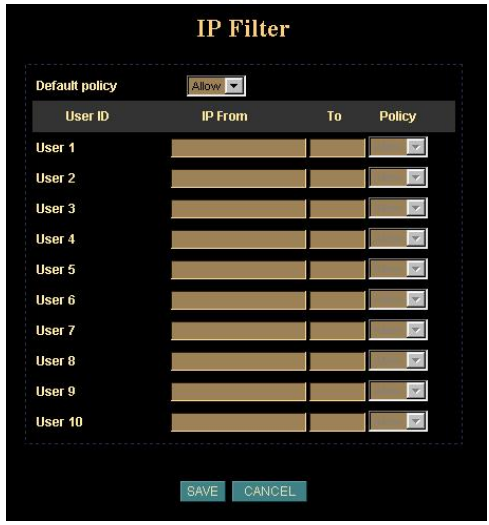
This User setting can set up to 10 different usernames and passwords. Every one set of username and password can be acted as an Administrator or just a general user.



User Screen

IP Filter Screen

The IP filter can set 10 different user's IP address, which are allowing enter or disregarding by the Video server. Please configure "User" before "IP Filter". Each "User" username and password matches with one "IP Filter" user.



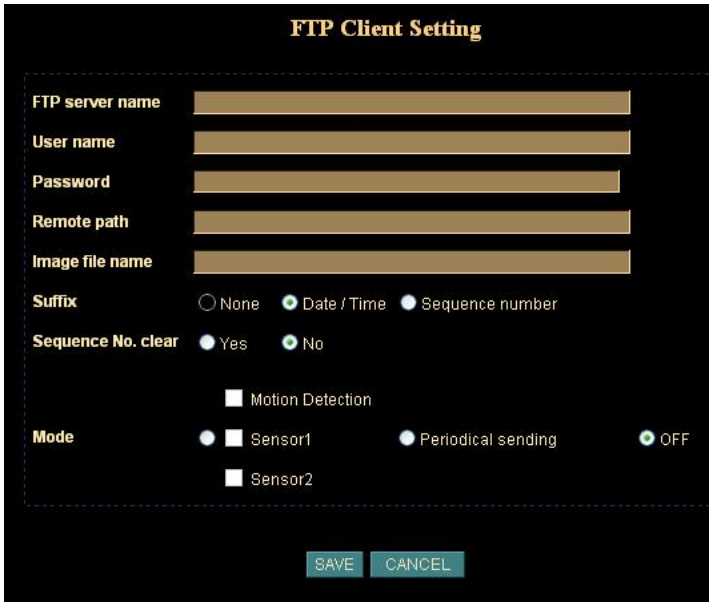
IP Filter Screen

Application Setting

Parameters in the Basic configuration menu provide machine adjustment; the available configurations are listed below:

Icon	Menu Link	Definition
	FTP Client	Setup IVS-100 as a FTP client and configure Server site in order to upload images to server
	SMTP	Setup Mail transferring service configuration
	Alarm 1	Setup Alarm Output 1 action via manual or event
	Alarm 2	Setup Alarm Output 2 action via manual or event
	Schedule	Schedule Motion Detection to send email or upload images.
	Motion Detection	Setup motion detection area and sensor sensitivity
	Time Setting	Setup the Network Camera time configuration
	Popup	Setup event message while motion or sensors has been activated
	Firmware Upgrade	Product firmware upgrade
	Factory Default	Pre-default the Network Camera factory default setting

FTP Client Screen



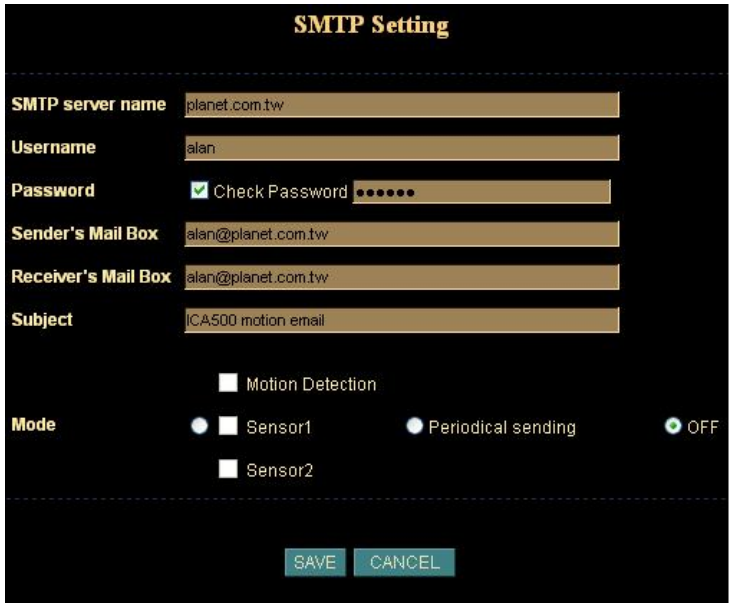
FTP Client Screen

Network Settings	
FTP server name	IP address or domain name of the destination FTP server
Username, Password	Please input the Username/Password for the FTP server
Remote path	Please input the path to the destination.
Image file name	Please input the basic file name you want to assign to the images when sending to the FTP server.
Suffix	Select the suffix to add to the file name.
Sequence No. clear	Enable or disable clear sequence number
Mode	Motion Detection / Sensor1 / Sensor2 / Periodical sending / Off Please select send a captured image mode.

SMTP Screen

This screen is displayed when the *SMTP* menu option is clicked.

SMTP (Simple Mail Transfer Protocol) is a protocol for sending e-mail messages between servers. The mail server address must be filled in this field.



SMTP Screen

Network Settings	
SMTP server name	Enter the address of SMTP server used to send the mail. Please ensure the server is using SMTP protocol and able to relay mails for you. Some SMTP server may require authentication. Please enable the "Check Password", and enter the Account Password fields below for authentication.
Username, Password	Enter the Username/Password for your SMTP account.
Sender's Mail Box	Enter the sender e-mail address in the field. This field must be entered with a valid e-mail format.
Receiver's Mail Box	Enter the receiver e-mail address in the field.
Subject	Enter the subject of outgoing mail.
Mode	Motion Detection / Sensor1 / Sensor2 / Periodical sending / Off Please select send a captured image mode.

Alarm 1 & Alarm 2 Screen

This screen is displayed when the *Alarm 1/Alarm 2* menu is clicked. *You can select Manual or Event for the Alarm mode.*

Alarm1 Screen

Schedule Screen

The Schedule can enable motion detection in an arranged period in order to avoid unnecessary images transmitting and catch the desired images.

Schedule Setting Screen

Motion Detection Screen

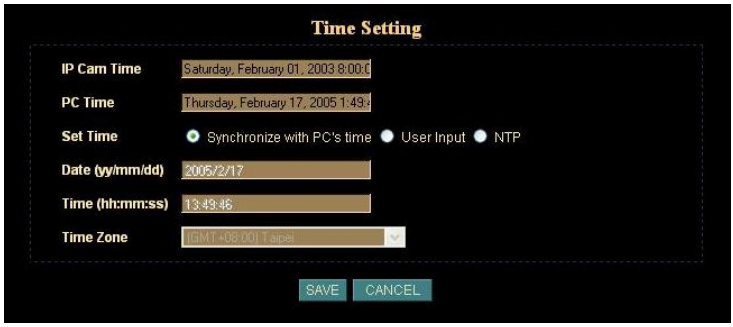
This screen is displayed when the Motion Detection menu option is clicked. You can Enable/Disable function and adjust the sensitivity level

Motion Detection Screen

Network Settings	
Enable Motion Detection	Enable or disable Motion Detection function in IVS-100
Sensitivity	Select the desired option to suit your environment. If covering a large area, you usually need higher sensitivity, since a moving object will take only a small portion of the image.
Area	Use the adjust the determine which areas of the image are examined for motion

Time Setting Screen

This screen is displayed when the Time Setting menu option is clicked.



Time Screen

Network Settings	
IP Cam Time	Provides settings of adjusting IVS-100's time
PC Time	This is default time value for PC.
Set Time	Three options of Synchronize with PC's time / User Input / NTP are available for your selection to link with the Time Server. The default setting is Synchronize the time with PC's time
Date (yy/mm/dd)	To set the Date Time manually select "User Input" and system administrator must enter the Date and Time in the respective field manually.
Time (hh:mm:ss)	
Time Zone	System administrator must select the time zone for the region. Please refer to the appendix for the time zone selection table.

ⓘ Hint

Please find below NTP server web address for your reference to set the timeserver.

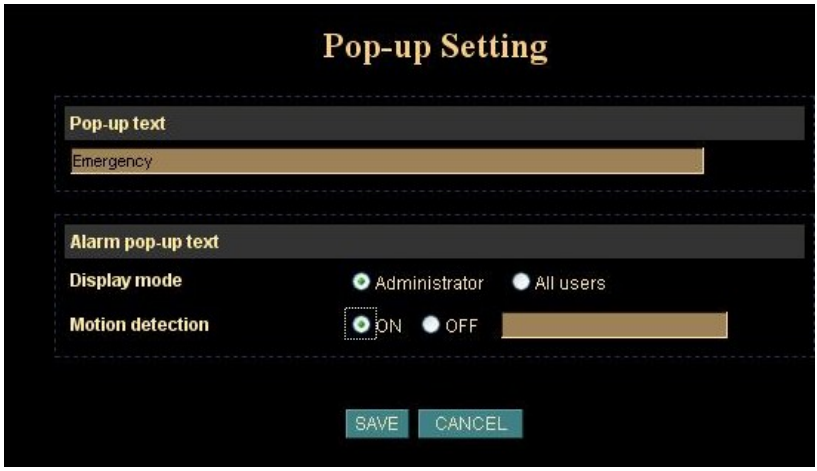
http://www.eecis.udel.edu/~mills/ntp/clock1.htm

http://www.eecis.udel.edu/~mills/ntp/clock2.htm

Popup Screen

This screen is displayed setting event message while motion or sensors has been activated

When any one of alarms enabled, and one of them detected, then a message window will be displayed on the screen.



Pop up Screen

Network Settings	
Pop-up text	
Display mode	Select display mode for your
Sensor 1, Sensor 2, Motion detection	Enable or disable the display of a text string in the video image. Type the text string that you want to display in the adjacent field.

Firmware upgrade Screen

This screen is displayed when you click the *Firmware* Upgrade menu on the Status screen.

Firmware Upgrade Screen

This screen allows you upgrade the Firmware (software) in your IVS-100. Before using this screen, your must download the upgrade file to your PC.

Then follow this procedure:

1. Click the Browse button, and locate the upgrade file.
2. Select this file, and click OK. The filename will then appear in the Upgrade File field.
3. Click the Start Upgrade button to transfer the file to the IVS-100 and start the upgrade procedure.

Firmware Upgrade
It is strongly recommended to stop any unnecessary jobs while updating firmware.
Please be patient and the updating process may take a long time.
Click here to begin to update firmware.
Click here to ignore and delete the file uploaded just now.

4. Click the “here” button to begin to upgrade firmware.

Firmware Upgrade
It is strongly recommended to stop any unnecessary jobs while updating firmware.
Please be patient and the updating process may take a long time.
Click here to begin to update firmware.
Click here to ignore and delete the file uploaded just now.
Microsoft Internet Explorer
Update firmware in flash memory?
OK
Cancel

5. Click the “OK” button to continue.

Firmware Upgrade
It is strongly recommended to stop any unnecessary jobs while updating firmware.
Please be patient and the updating process may take a long time.
Click here to begin to update firmware.
Click here to ignore and delete the file uploaded just now.
Writing Progress: 78%

6. The upgrade progress status information will be displayed on the screen. Once the upgrading process completed, the Video server will reboot the system automatically.

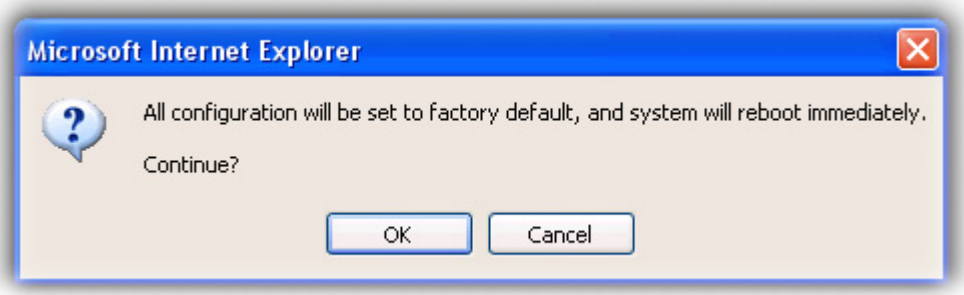
ⓘ Hint

Do not interrupt the upgrading procedure during proceeding; or the inner component might be permanently damaged.

Factory Default Screen

This screen is displayed when you click the Factory Default menu on the Status screen.

Please Click “OK” button to load default settings to camera.



Trigger & Capture

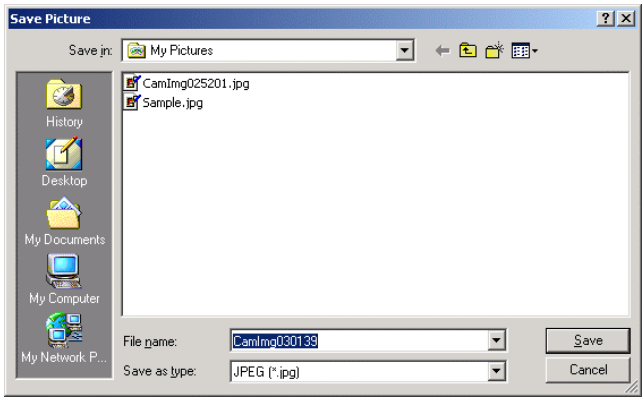
Trigger:

This is sending an image or output a trigger to control the alarm output, using Trigger section on the main page.

Network Settings	
FTP	Upload a captured image to server
Mail	Mail captured image to specific mail address
Alarm 1	Enable Alarm output 1
Alarm 2	Enable Alarm output 2
Clear Alarm 1	Clear alarm1 output status
Clear Alarm 2	Clear alarm2 output status

Capture:

This screen is displayed when you click the Capture menu and the function can capture current image and save it to storage media. The image is saved in the JPEG format.



]

ActiveX Control

This feature only supports on the ActiveX control within Microsoft® Internet Explorer.

View

This screen is displayed when you click the “View” menu on the ActiveX control.

View Settings	
Resizable	Make the image is resizable, but “Actual size disable”, the “Splits” is supported on this mode.
Actual size	Make the image show as the actual size, the “Splits” function does not work on this mode.

Status Bar	A status bar display on the button of the image.

Split

This screen is displayed when you click the “Split” menu on the ActiveX control.

The Video server provides four setting for Window split, it can display different time frame images of the selected Video server. The time string with green characters is the current displayed image.

Available Split: • 1 x 1 (Default) • 2 x 2 • 3 x 3 • 4 x 4

Rotate & Quality & Resolution

Rotate:

An image can be rotated in predefined 180-degree increments.

Quality:

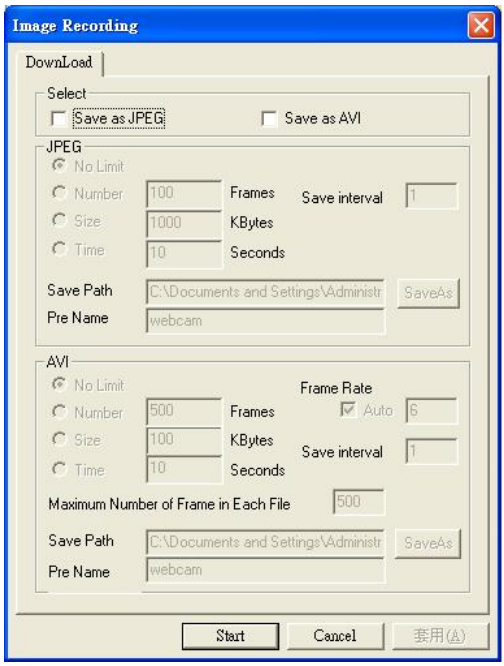
Available quality : • High (Default) • Low.

Resolution:

Available resolution: • 176x144 • 320x240 • 352x288 • 640x480

Image Recording

This screen is displayed when you click the “Image Recording” menu on the ActiveX control.



Recoding Screen

Save as JPEG:
Select this option and click “Save as JPEG” for detailed configurations. The pre-defined schedule can be set by JPEG.

During the JPGEG file recording, a red icon displays on lower right position of the image to indicate the AVI saving process. If want stop the recording, please press the “Stop Image Recording” to stop the save as JPEG process.

Save as AVI:

Select this option and click “Save as AVI” for detailed configurations. The pre-defined schedule can be set by AVI.

During the AVI file recording, a red icon displays on lower right position of the image to indicate the AVI saving process. If want stop the recording, please press the “Stop Image Recording” to stop the save as AVI process.

Recording File Path:

Save Current Picture As

This screen is displayed when you click the “Save Current Picture As” menu on the ActiveX control.

How to configure Motion Detection

- Please select the “Save Current Picture As “ to save the current display image into the local PC.
- Please input the saved ”file name”, and click “Save” button.
- Please select the file to display the saved image by using any one of graph editing tools.

Setting
Trigger
Capture
Logout
IVS-100 2005-5-19 17:30:19
另存新檔
儲存於(I):
IVS100
檔案名稱(N):
WebCamPic
存檔類型(T):
*.jpg
儲存(S)
取消
Carmera Zoom
Carmera Speed
Focus
Near
Auto
Far
Recall
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
Carmera Tour
off
Auto Pan
off
Resolution
640×480
320×240
352×288
176×144
30
Brightness
Image Quality
Clarity
Default
Fluency

Appendix A

Alarm I/O Connector

Appendix A Alarm I/O Connector

An external sensor that senses physical changes in the area Video Server is monitoring can activate some features of IVS-100. These changes can include intrusion detection or certain physical change in the monitored area. For examples, the external sensor can be a door switch or an infrared motion detector. These devices are customer provided, and are available from dealers who carry surveillance and security products. Electrically, they must be able to provide a momentary contact closure.

This Video Server provides a general I/O terminal block with two digital inputs and two outputs for device control. Pin 1 and 2 can be connected to an external sensor 1. Pin 2 and 3 can be connected to an external sensor 2. Both of the inputs, the voltage will be monitored from the initial state 'LOW'. The relay switch of pin 4, 5 and 6 can be used to turn on or off the external device. The relay switch of pin 7 and pin 8 can be used to turn on or off the external device. External Inputs/Outputs are working independently.

Pin	Function
1	Alarm Input #1 (A). Max 24VDC, 12mA.
2	Alarm Input #1/2 (K).
3	Alarm Input #2 (A). Max 24VDC, 12mA
4	Alarm Output #1 (NC). Max 24VDC, 1A
5	Alarm Output #1 (COM)
6	Alarm Output #1 (NO)
7	Alarm Output #2 (COM). Max 24VDC, 1A
8	Alarm Output #2 (NO)

Appendix B

Troubleshooting

Appendix B Troubleshooting

Q: The video and audio codec is adopted in the Video server?
A: The Video server utilizes JPEG compression to providing high quality images. JPEG is a standard for image compression and can be applied to various web browsers without the need to install extra software. The audio codec is ADPCM compression.
Q: The maximum number of users access Video server simultaneously.
A: The maximum number of users is depending on the total bandwidth accessed to Video server from clients. The data throughout of Video server is around 5~6Mbps. Therefore, the maximum number of connected clients is varying by settings of resolution and frame rate. Obviously, the performance of the each connected client will slow down when many users are logged on.
Q: The Video server can be used outdoors or not.
A: The Video server is not weatherproof. It needs to be equipped with a weather-proof case for outdoors using. However, equipped with a weatherproof case will affect the audio function of Video server.
Q: The network cabling is required for the Video server.
A: The Video server uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
Q: Why doe the Status LED not light up
A: • Check and confirm that the standard AC adaptor, included in packaged, is used. Secure the power connector and re powers it on again. • If the problem is not solved, the Video server might be faulty. Contact your dealer for further help.
Q: The Video server will be installed and work if a firewall exists on the network.
A: If a firewall exists on the network, port 80 is open for ordinary data communication. The Video server uses port 80(default) only. This port (or the port you specify from the Configuration screen if you change the default port) needs to be opened on the firewall.
Q: The username and password for the first time or after factory default reset
A: Username = admin and leave password blank. **Note** passwords are case sensitivity.
Q: Forgot the username and password
A: Follow the steps below. •Restore the factory default setting by press pressing and holding down more than 8 seconds when power on Video server. •Reconfigure the Video server.
Q: Forgot the IP address of the Video server.
A: Check IP address of Video server by using the IP Finder (**ipeditv3**) program.

Q: IP Finder program (ipeditv3) cannot find IVS-100

A:• Re power the IVS-100 if cannot find the unit within 1 minute.
• Do not connect IVS-100 over a router. IP Finder program cannot detect IVS-100.
• If IP address is not assigned to the PC which running IP Finder program, and then IP Finder program cannot find IVS-100. Make sure that IP address is assigned to the PC properly.
• Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up IVS-100.

Q: Internet Explorer does not seem to work well with the IVS-100

A: Make sure that your Internet Explorer is version 6.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage at: http://www.microsoft.com/windows/ie.

Q: Internet Explorer does not seem to work well with the IVS-100

A: IP Finder program fails to save the network parameters. • Don't leave any space in the name field. Use underline, "_", or dash, "-" to replace the space, " ". • Network may have trouble. Confirm the parameters and connections of the IVS-100.

Q: Internet Explorer does not seem to work well with the IVS-100 Cannot access the login page and other web pages of IVS-100 from Internet Explorer

A: • Another device or computer is already using Maybe the IP Address of the IVS-100. To confirm this possible problem, disconnect the IVS-100 from the network first, and then run the PING utility to check it out.
• Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the IVS-100 via a crossover cable.
• Make sure the Internet connection and setting is ok.
• Make sure enter the IP address of Internet Explorer is correct. If IVS-100 has a dynamic address, it may have changed since you last checked it.
• Network congestion may prevent the web page appearing quickly. Wait for a while.
The IP address and Subnet Mask of the PC and IVS-100 must be in the same class of the private IP address on the LAN.
• Make sure the http port used by the IVS-100, default=80, is forward to the IVS-100's private IP address.
• The port number assigned in your IVS-100 might not be available via Internet. Check your ISP for available port.
• The proxy server may prevent you from connecting directly to IVS-100, set up not to use the proxy server.
• Confirm that Default Gateway address is correct.
• The router needs Port Forwarding feature. Refer to your router's manual for details.
• Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details.
• Access IVS-100 from the Internet with the global IP address of the router and port number of IVS-100.
• Some routers reject the global IP address to access IVS-100 on the same LAN. Access with the private IP address and correct port number of IVS-100.
• When you use DDNS, you need to set Default Gateway and DNS server address.
• If it's not working after above procedure, reset IVS-100 to default setting and installed it again.
• If the problem is not solved, the IVS-100 might be faulty. Contact your dealer for further help.

Q: Image or video does not appear in the main page

A: • The first time the PC connects to IVS-100, a pop-up Security Warning win-

dow will appear to download ActiveX Controls. When using Windows NT, Windows 2000 or Windows XP, log on with an appropriate account that is authorized to install applications.• Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.

Q: Check the IVS-100's ActiveX is installed on your computer

A: Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "WebWatch Class". The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the IVS-100's home page. Most likely, the IVS-100 ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.

Q: Check the IVS-100's ActiveX is installed on your computer

A: Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls". Setup the IE security settings or configure the individual settings to allow downloading and scripting of unsigned ActiveX controls.

Q: The IVS-100 works in local network, but not accessible from remote network

A: This might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the IVS-100 to be accessible outside your LAN.• Make sure that the IVS-100 isn't conflicting with any other web server running on your LAN.• Check the configuration of the router settings allow the IVS-100 to be accessed outside your local LAN.

Q: There are unreadable characters displayed in machine configuration pages

A: Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.

Q: Frame rate is slower than the setting

A: • The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. • When more than one client were viewing, the frame rate becomes slower. • Ethernet switching hub can smooth the frame rate especially in viewing on the Multi-Camera screen.

Q: Blank screen or very slow video when audio is enabled

A: • Your connection to the IVS-100 does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 176x144 or 320x240 and/or disabling audio.• Audio will consume 32 to 64 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the IVS-100.

Q: Image Transfer on e-mail or FTP does not work

A: • Default Gateway and DNS server address should be set up correctly. • If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.

Q: The image from IVS-100 is fuzzy.

A: • The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the performance of the external Automatic Focusing camera. Clean the lens with lens cleaner.

- Manual focusing may be setup on the external camera to prevent this.
- Blurred images may have been registered when registering or modifying the preset button or home position button. Adjust the focus in manual focusing again
- The image may be out of focus, if the object is too near, or depending on the

zoom position. Move the object off IVS-100, or adjust the zoom position.

• Some objects are difficult to focus on by the external Auto Focus camera. When the objects are still out of focus, adjust the focus using manual focusing, or change the objects using Pan/Tilt operation or Zooming features on the external camera.

Q: The color of the image is poor or strange

A:

• To insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer.

•The configuration on the IVS-100 image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and saturation properly.

Q: Image flickers

A: • Wrong power line frequency makes images flicker. Make sure the NTSC or PAL format of your IVS-100

.• If the object is dark, the image will flicker. Make the condition around the IVS-100 brighter.

Q: Noisy images occurs

A: The video images might be noisy if the external camera is located in a very low light environment. Make the condition around the camera brighter.

Q: How to Reboot the IVS-100

A: If you just want to reboot system without change anything. Go to Network page and click **SAVE** button directly, then system will reboot again.

Q: Can not play the recorded AVI file

A: Have installed Microsoft's® DirectX 9.0 or later and use the Windows Media Player 9 or later to play the AVI filed recorded by the ActiveX.

Appendix C

Bandwidth Calculation

Appendix C: Bandwidth Calculation

The frame rate of video transmitted from the IVS-100 depends on connection bandwidth between client and server and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements form your IVS-100.

Image bandwidth is approximately equal to the average frame rate in frames per second multiplied by the average frame data size in kilobits. Frame data size, or the number of bits comprising a single video frame varies a great deal from depending on scene complexity, lighting conditions, camera noise, etc. The table shown below is reference figures. Actual results generated by the IVS-100 may be varying.

Image Resolution	Average range of Data Sizes
176 x 144 (QCIF)	20 – 40k bit
320 x 240 (QVGA)	56– 92k bit
352 x 288 (CIF)	64 – 112k bit
640 x 480 (VGA)	160 – 320k bit

For example, streaming 2 fps of 320 x 240 video requires 112 to 184 kbps (kilobits per second). Therefore, with a 128K upload connection; you will typically see 3 to 6 frames per second with 176 x 144 resolution and 1 to 2 frames per second with 320 x 240 resolution without audio stream.

Note

Audio streaming also takes bandwidth around 32 kbps to 64kbps. Most ADSL/Cable modem upload speeds may not even reach up to 128 kbps. Thus, you may not be able to receive any video while streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps, for optimal video performance, disabling audio streaming will get better video performance.

Appendix D

Specifications

Appendix D: Specifications

Model	IVS-100
Hardware	
Network	1 x 10/100Mbps RJ-45 port
Alarm Input/Output	2 x In / 2 x Out
Video interface	BNC connector for video input
Video Input	1Vp-p / 75 Ohm
Audio interface	RCA audio interface for audio recording
Image (Video setting)	
Image compression	JPEG, 3 levels
Video Resolution	640 x 480, 352 x 288, 320 x 240, 176 x 144
Camera Preset position	16 presets
Environment	
Operating Temperature	0~50 degree C, 10~90% humidity
Power Requirement	12V DC
EMC/EMI	CE, FCC
Network and Configuration	
Connection type	Static IP, PPPoE, DHCP
Management	Web, CamView utility